

# Fortified Refined Vegetable Oil

This processed commodity is generally used in all program categories as an ingredient in cooking and for its caloric density to increase the caloric content of foods. As of December 1, 1998, all edible vegetable oil (vegoil) has been fortified with vitamin A, which will enhance the nutritional value of vegoil in feeding and other types of programs.

## 1. NUTRITIONAL VALUES (per 100 g)

These are average values, taken from the U.S. Department of Agriculture, Agricultural Research Service (USDA:ARS) 1998 USDA Nutrient Database, Release 12, Laboratory Home Page, (<http://www.nal.usda.gov/fnic/foodcomp>). These nutrient values are provided as a guide for use in the calculation of food aid rations; users should be aware that shipments of food aid may vary from these exact values. The value for Vitamin A is the minimum level that must be added to the oil as described in Specifications below.

## 2. COMPONENTS

100% Refined, bleached, winterized, and deodorized soy oil, corn, cottonseed, peanut, rapeseed, safflower, or any combination or any other oil (except olive oil). The most commonly used oil is soybean oil.

## 3. SPECIFICATIONS

### VITAMIN A FORTIFICATION

Vegetable oil must be fortified with vitamin A (retinol palmitate) at the rate of 60-75 IU/g.

(Source: USDA:FSA:PDD:EOB Announcement VO7 Purchase of Vegetable Oil for Use in Export Programs. December 1, 1998)

(See Table next page.)

## 4. PACKAGING

4-liter cylindrical tins, 4-liter plastic jugs, 20-liter steel pails, or 208-liter steel drums.

## 5. SHELF LIFE

At least one year. See "Section III: Storage/Shelf Life Specifications" for more information.

Nutrient	Amount	Unit
Water	0.0	g
Energy	884.0	Kcal
Protein	0.0	g
Total Lipid	100.0	g
Carbohydrate	0.0	g
Fiber, total dietary	0	g
Ash	0.0	g
Calcium	0	mg
Iron	0.02	mg
Magnesium	0.03	mg
Phosphorus	0	mg
Potassium	0	mg
Sodium	0.0	mg
Zinc	0.0	mg
Copper	0.0	mg
Manganese	n/a	mg
Selenium	0	mcg
Vitamin C	0	mg
Thiamin	0.00	mg
Riboflavin	0.00	mg
Niacin	0.00	mg
Pantothenic acid	0.0	mg
Vitamin B-6	0.0	mg
Folate	0	mcg
Vitamin B-12	0	mcg
Vitamin A	6000	IU
Vitamin E	18.2	mg-ATE
Vitamin D	n/a	IU
Iodine	n/a	mcg

## SALIENT CHARACTERISTICS

**Type A** - Salad oil shall be refined, bleached, winterized and deodorized cottonseed or sunflowerseed; refined, bleached and deodorized peanut or soybean, or any other combination of these oils.

**Type B** - Salad oil shall be either refined, bleached, winterized, and deodorized corn oil; refined, bleached, winterized, and deodorized cottonseed oil; or a combination of both.

**Type C** - Salad oil shall be refined, bleached, partially hydrogenated, and deodorized soybean oil.

**Type A, B or C** - Salad oil shall be clear and brilliant when held at 70 to 50F. The oil shall be free from sediment, such as metal, wood, dirt, glass, paint, insects, insect parts, or any other foreign material. The product shall have a bland odor and flavor and shall be free from beany, rancid, painty, musty, metallic, fishy, putrid or any other undesirable odor and/or flavor. The salad oil shall have a light viscosity without leaving a heavy oily taste.

## ANALYTICAL DATA

REQUIREMENTS	TYPE		
	A	B	C
Color (Lovibond)	2 red 20 yellow	2 red 20 yellow	2 red 20 yellow
Stability, Active Oxygen Method (AOM), PV not greater than 100 meq/KG (hours) (max.) <sup>1</sup>	15 hours	15 hours	15 hours
AOCS Cold Test (5.5 hours minimum)	Pass	Pass	Pass
Moisture and volatile matter (% by weight) (maximum)	.06	.06	.06
Free fatty acid as oleic, % by weight (max.) <sup>1,3</sup>	0.05	0.05	0.05
Peroxide value (PV) (meq/kg) (max.) <sup>1</sup>	1.0	1.0	1.0
Insoluble impurities (max.)	None	None	None

<sup>1</sup> Determination shall be made seven days after packaging.

<sup>2</sup> Cold Test is not required for peanut or soybean oil

<sup>3</sup> Maximum of 0.06 % free fatty acid will be acceptable if propyl gallate is added as an antioxidant

(Source: USDA:FSA:PDD:EOB April, 1996. Contact 202-690-3565

<http://www.fas.usda.gov/excredits/pl480/commodities/vegoil.htm>)